

# THE UNIVERSITY OF KANSAS SCIENCE BULLETIN

VOL. XXXI, pt. I.]

MAY 1, 1946

[No. 4

## The Status of *Sceloporus floridanus* Baird

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ABSTRACT: Evidence is presented to show that the name *Sceloporus floridanus* Baird should be allocated with the Florida subspecies (*undulatus*) of *S. undulatus*, and not with the Texas relative (*S. olivaceus*) of *S. spinosus* as indicated by the Stejneger and Barbour Check List.

THE 1943 edition of the Stejneger and Barbour Check List of North American Amphibians and Reptiles presents a new interpretation of the identity and validity of Baird's *Sceloporus floridanus* (Proc. Acad. Nat. Sci. Phila., 1858, p. 253), whereby the discrepancy between the stated type locality (Pensacola, Florida) and the range concept which accompanies allocation of that name to the Texas relative of *Sceloporus spinosus* is explained by assuming an incorrect statement of the type locality. Since the Texas species referred to is not known east of Texas, identification of the type of *floridanus* (fortunately extant, U. S. National Museum No. 2874) with that species would necessitate either the above assumption or the very unlikely one that the Texan form does occur eastward to Florida but has simply not been collected east of Texas save for the type. While the name has long been associated with the Texan form (by most authors ever since Stejneger so identified it in 1893), only within the past ten years has the concurrent geographic discrepancy been generally apparent, and now for the first time is proposed a reasonable reconciliation of apparently inconsistent facts.

There is another means of reconciliation, however, by associating the name with the form of the *undulatus* group which occurs in the region of the type locality; this was first proposed in 1936 by Burt (Trans. Kan. Acad. Sci., vol. 38, pp. 277, 281). Subsequent articles by the same author (Papers Mich. Acad. Sci., Arts., Lett., vol. 22

1936 (1937), pp. 535-536; Trans. Kans. Acad. Sci., vol. 40, 1939, pp. 353-354) reveal a maintenance of the same opinion, and with the major premise concurrence of opinion was expressed by other authors, including myself (Occ. Pap. Mus. Zoöl. Univ. Mich., no. 387, 1938, pp. 7-8; Zoöl. Ser. Field Mus. Nat. Hist., vol. 26, 1939, pp. 110-116). Such an allocation releases the Texan form from the name *floridanus*, and makes valid for it the later name of *olivaceus* Smith. However the Stejneger and Barbour Check List uses the name *spinosus* for the Texan form, as did Burt, although it has been pointed out repeatedly that the Texan form (which occurs also in northern México) differs widely from *spinosus* of central México. The Check List therefore uses two names, *S. floridanus* and *S. spinosus*, for the same species. Since in the preceding (4th) edition the former name was used for the Floridan form, and *spinosus* for the Texan, it may be assumed that it was the intention of the authors to delete reference to *spinosus* upon reallocation of the name *floridanus*.

Since the type of *floridanus* is extant and in good condition, one might assume it would be a simple matter to determine which of two species as clearly distinct as *olivaceus* of Texas and *undulatus* of Florida it represents. The difficulty in making a definite statement is due largely to the unfortunate fact that there is no infallible morphological character known as yet that will distinguish the two (except size). The sharpest differences are chiefly in color; in addition *olivaceus* is much larger, but specimens of intermediate sizes are not to be determined by this character. There can be no question of the distinctness, as species, of the Florida and Texan forms, but individual specimens of moderate or small size (less than 80 mm. snout to vent) can be distinguished at present best by color.

The color of the type of *floridanus*, a male measuring 75.5 mm. snout to vent, fits the usual pattern of neither form very well. A male specimen of comparable size of either species should have the very clearly defined ventral markings characteristic of that sex, yet the belly of the type is "immaculate save a few black striations in the chest region and a longitudinal line between hind legs" (personal notes, 1934). Therefore we can assume with some degree of certainty that *some* fading has taken place, and the dorsal surface bears out this assumption, for "dorsal markings are absent, except the sides appear darker than the back; a vertical black mark from shoulder to lateral neck fold." However, of most importance is the *extent* of fading which would be necessary to bring a specimen of

comparable size of either species to an appearance like that exhibited by the type.

Males of the Florida form seldom reach the size of the type, but I have seen two of approximately the same size, out of 81 examined (Univ. Mich. No. 76436, Natchez, Adams Co., Miss., 77 mm.; and Univ. Mich. No. 47585, Washington, Adams Co., Miss., 74 mm.). It is remarkable that in this form the males at least equal if they do not exceed the females in size; the largest female in seventy-three examined measured 72 mm. (Charleston Mus. No. 31. 233. Cottageville, Colleton Co., S. C.). In the larger series examined of the more northern race (*u. fasciatus*), several specimens of both sexes were found to equal or exceed 75 mm. Therefore on size alone the type cannot be excluded from identity with the Florida form. The Texan form, of course, reaches a still greater size (97.5 mm. recorded for males, 121 mm. for females). But males of the Florida form, at such a large size, would be extremely dark below, while those of the Texan form would have but few, scattered, black streaks in addition to the bluish lateral belly patches and throat. The amount of fading necessary to bleach a large Florida male would be much greater, then, than the amount required to bleach a specimen of *olivaceus*, and in fact it would seem well-nigh impossible to bleach an *undulatus* so completely without rendering it uniform white. Yet I believe this occurred, and the belief is based upon the presence of the dark shoulder blotch. This mark, clearly, must have been one of the darkest spots on the lizard to have remained while other pattern features were lost. Now *olivaceus* has no distinctive shoulder patch; a dark mark which does occur there is relatively small and is cut off dorsally by a light longitudinal band, is usually scarcely larger and darker than other blotches on the sides of the back, and generally does fade quickly in formaldehyde; *undulatus*, on the other hand, does have a very dark, large, unbroken shoulder patch, which is one of the earliest pattern marks to appear in development, and might well be expected to be among the last to disappear in the bleaching process.

Other notes taken on the type of *floridanus* are as follows:

Supraoculars 5-5, separated from median head scales, and from superciliaries by one row on one side and on the other by one complete and one incomplete row; frontal in contact with interparietal and median frontonasal; anterior section of frontal divided; two canthals, the first touching lorilabials on one side (fused with loreal); preocular not divided; lorilabials reduced to one row at a point be-

low subocular; outer row of labiomentals not in contact with mental; auricular lobules elongate, 5-5. Scales on back rather strongly keeled, mucronate, denticulate; ventrals strongly notched; scales on posterior surface of thigh much smaller than preanals, smaller than those preceding femoral pores; pores 13-15. Dorsal scales, 31; scales around middle of body, 33; 53 ventrals; a few modified, pore-like preanal scales; snout to vent, 75.5 mm.; snout to occiput, 13.5 mm.; snout to posterior border of ear, 17 mm.; hind leg, 57.6 mm.; fourth toe, 22.3 mm.; fifth toe, 10 mm.; tibia, 15 mm.; 5.7 dorsal scales to head length; lamellae on fourth toe 23-24; tail, 126 mm.

Three points mentioned in the above description are of special interest. First, in only 4 out of 100 *olivaceus* was the anterior section of the frontal found divided; it is frequently divided in *undulatus*, and is in the type of *floridanus*. Second, in 54 specimens of *olivaceus* 52 was the maximum ventral count; the type of *floridanus* has 53 (no data for *undulatus*, but a higher range is to be expected). And finally, according to my observations, the preanal scales are modified with porelike structures only in the very large and old males of a species; it is not a phenomenon of frequent occurrence in any *Sceloporus*. A snout-vent measurement of 77 mm. in *olivaceus* is that of a young male which would definitely not be expected to have preanal "pores"; while the same measurement in *undulatus* is that of a very large male, in which preanal "pores" could reasonably occur.

Therefore it may be concluded that, while completely convincing evidence is lacking, there is strong evidence on the basis of color, subdivision of the frontal, ventral count and preanal "pores" that the type of *floridanus* belongs to *undulatus* rather than to *olivaceus*, and that on no count is there a stronger indication toward *olivaceus* than toward *undulatus*. The type locality of *floridanus* is therefore to be accepted as stated, and the name should be considered a synonym of the older *undulatus*, based upon the same form. The proper name for the Florida form is then *Sceloporus undulatus undulatus* (Latreille), and that of the Texas form *Sceloporus olivaceus* Smith.